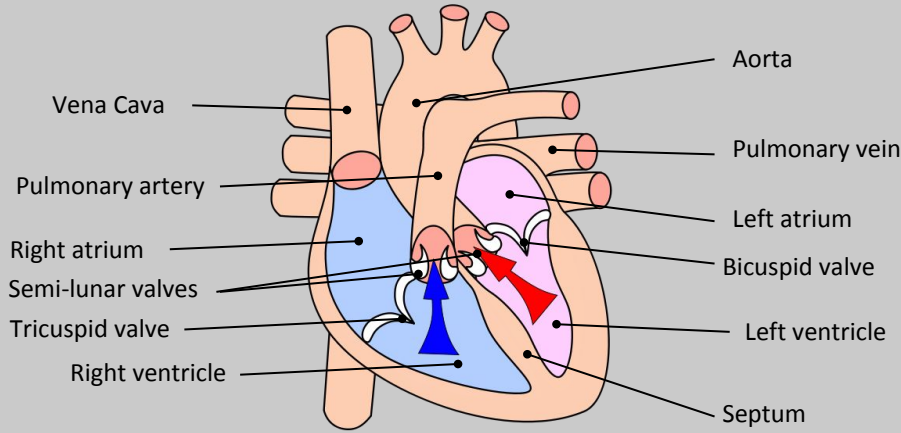


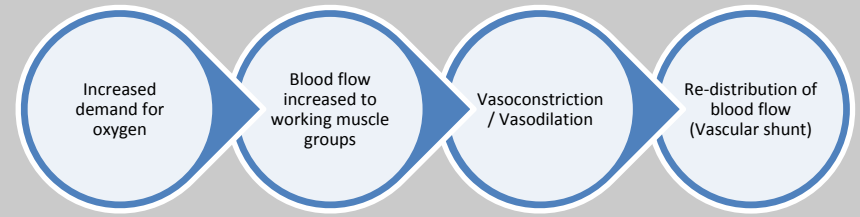
GCSE Physical Education – The structure and functions of the cardiovascular system

Structure of the cardiovascular system

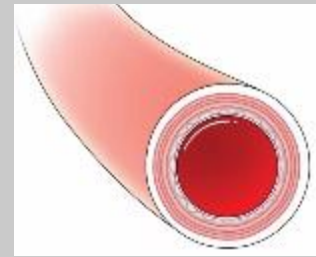


Deoxygenated blood = **BLUE** (Right side)
Oxygenated = **RED** (Left side)

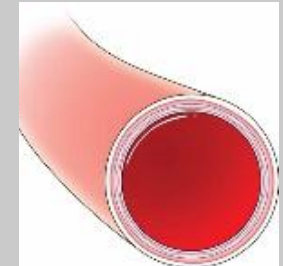
Vascular Shunting



Vasoconstriction – **NARROWING**

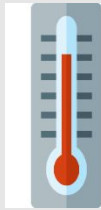


Vasodilation – **EXPANDING**



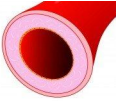


Function of the cardiovascular system

- Transport of oxygen, carbon dioxide and nutrients
- Clotting of open wounds
- Regulation of body temperature



Cardiac Output (Q) = Heart Rate (bpm) x Stroke Volume (mL per beat)

Blood vessels

Arteries	Veins	Capillaries
<ol style="list-style-type: none"> 1. Away from the heart 2. Oxygenated blood (except pulmonary artery) 3. Thick/elastic walls 4. High pressure 5. Small lumen 	<ol style="list-style-type: none"> 1. Back to the heart 2. Deoxygenated blood (except pulmonary vein) 3. Thin walls + larger lumen 4. Lower pressure 5. Valves 	<ol style="list-style-type: none"> 1. In the tissue 2. Site of gaseous exchange 3. Very thin walls 

Components of blood - Red blood cells

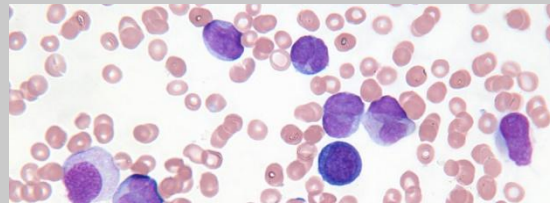
Carry oxygen from the lungs to the working muscles + Removes CO₂.

Haemoglobin binds the oxygen



White blood cells

Are part of the immune system and **fight disease** and infection.



Platelets & Plasma

Platelets **clot blood** and form a scab around the site of injury.

Plasma is the **liquid/fluid** part of blood that allows it to flow.

